

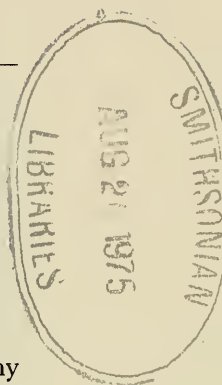
QH  
1  
B4X  
NH

No. 20, pp. 211-216

15 August 1975

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTONA NEW GENUS AND SPECIES OF  
EURYURID MILLIPEDS FROM CHIAPAS  
(POLYDESMIDA: PLATYRHACIDAE)

BY RICHARD L. HOFFMAN

*Radford College, Radford, Virginia 24142*

In recently working through the euryurid material in my collection during revisionary studies, I came across two specimens which had been sorted out and tentatively identified as referable to the genus *Polylepiscus* (on the basis of external appearance) nearly ten years ago. When the male was unrolled and the genitalia examined it was immediately obvious that a new generic type was represented, a conclusion reinforced by the remarkable modifications of the anterior sterna. Since this species is excluded from the genera *Amplinus* and *Pycnotropis*, both currently being monographed, it is here described separately.

As I have indicated elsewhere (in press), the euryurid millipeds might best be considered a subfamily of the Platyrhacidae instead of a separate family. The known genera of this subfamily fall into three relatively discrete groups which were treated as subfamilies in my 1954 synopsis. Of these taxa, now regarded as tribes, one (Aphelidesmini) is monobasic, one (Euryurini) contains two genera, while the third is much larger and comprehends no fewer than eight genera in the Neotropical Region. It is this third tribe, Amplinini, that the new genus finds its place, in the general vicinity of *Polylepiscus* and *Pycnotropis*.

The specimens described here are part of a large and extremely important collection of Mexican diplopods assembled in 1965 and 1966 by Drs. George E. Ball and Donald R. Whitehead during their own studies on Mexican carabids. I am very

much indebted to these assiduous collectors for their generosity in placing this valuable material at my disposal.

Genus **Exallostethus**, new genus

*Type species*: *E. thrinax*, sp. nov., from Mexico (Chiapas).

*Diagnosis*: Distinguished from the superficially similar genera *Amplinus*, *Polylepiscus*, and *Pycnotropis* (and all other known euryurid genera) by the singular form of the gonopods and by the presence of enormous median processes on the sterna of segments 4 and 5 in males, and 4 in females. Collum without anterior marginal rim, likewise a unique character in this group. Stigmata dissimilar in size, posterior stigmata smaller and set obliquely between dorsal coxal condyles.

Gonopods without sclerotized median sternal remnant, but with a prominent thickened mass of membrane between the coxae; prefemur relatively short, its median face with greatly thickened setae, almost spurs, in addition to the usual slender hairs; acropodite elements elongated, much longer than prefemur, solenomerite very long, slender, and nearly straight, apically flattened and twisted; distal end of tibiotarsus enlarged and divided into two subsimilar apically acute lobes; postfemur with a long, slender, distally falcate process, another unique feature within the subfamily.

*Distribution*: Known so far only from the mountains of central Chiapas.

*Etymology*: The name is derived from the Greek *exallos*, utterly different + *stethos*, chest or sternum; bestowed in token of the remarkable modification of the anterior sterna in both sexes, not approximated in any other known euryurids. Gender masculine.

**Exallostethus thrinax**, new species

Figures 1-4

*Diagnosis*: With the characters of the genus. Females similar to those of *Polylepiscus trimaculatus* (Hoffman, 1954) in general appearance but differ in that the posterior corners of the paranota of segments 3 and 4 are rounded instead of acute, the sides of the metaterga are coarsely granulate only along anterior and posterior margins, and in the presence of a prominent erect median process on the sternum of the 4th segment.

*Type-material*: Male holotype and female paratype from Highway 195, 11.6 miles north of Pueblo Nuevo, 5200 ft., Chiapas, Mexico; April 27, 1966; G. E. Ball and D. R. Whitehead, legg. (Hoffman Collection).

*Holotype*: Adult male, ca. 55 mm in length, 9.3 mm in maximum width, W/L ratio, 17.0%. Body increasing gradually in width from collum back to posterior  $\frac{2}{3}$  of body, thence narrowing abruptly over the last few segments as shown by the following dimensions:

| Segment 1-6.8 mm | Segment 10-9.2 mm |
|------------------|-------------------|
| 2-7.6            | 12-9.3            |
| 4-8.3            | 14-9.3            |
| 6-9.1            | 16-8.8            |
| 8-9.1            | 18-7.1            |

Color of preserved specimen: dorsum of metaterga, most of head, and 6th antennomere rich maroon to chestnut brown; entire upper and lower surfaces of paranota and large median metatergal spot (median band on collum) nearly white; labrum and first four antennomeres yellowish; sterna light yellowish brown; legs uniformly brown; prozona and lower sides grayish.

Head moderately convex, smooth and polished, epicranial groove deep and prominent, bifurcate between antennae, its branches continuing ventrolaterad to ventral edge of antennal sockets. Latter set off below and laterally by a deep depression, subtended on each side by a large and prominent genal convexity, the median end of which is formed by a distinct vertical groove from lower edge of antennal socket. Lower half of genae planoconvex, without evident lateral margin, edge shallowly emarginate. Side of head behind antennae conspicuously ridged and grooved vertically. Frons elevated above level of genae and labroclypeus, in anterior aspect head appearing to be provided with two epicranial, a large triangular frontal, and two oval convex genal prominences. 0-0 epicranial setae; 1-1 interantennal; 1-1 widely spaced frontal; 4-4 clypeal, the outermost on each side remote from the median series of six; 10-10 labral; all setae multiple.

Antennae of moderate length (6.6 mm) and proportions, extending back to caudal edge of paranota of 3d segment. Articles 2-5 subclavate, enlarged apically, 6th cylindrical, 7th small, truncate-conic in shape. Length relationships:  $3 > 4 = 5 = 6 > 2 > 1 > 7$ .

Collum evenly arched, laterally depressed, entire surface smooth and polished except for very indistinct sublateral corrugation; lateral ends symmetrically rounded; anterior margin without trace of groove, surface continuous with edge. Collum appreciably narrower than width of second segment.

Body segments generally similar in structure; prozona and metazona separated by an evident 'waist' containing well-defined, faintly costulate striae. Metazona dorsally slightly elevated above level of prozona. Surface of both subsegments smooth and polished middorsally, upper surface of paranota with several low and distinctly defined convex areas. Scapulae marginal, those of segments 8 to 18 with an indistinct single row of minute, widely-spaced spicules forming a primitive strigil; peritreme strongly thickened near midlength, ozopore opening laterally in a large concavity (seen in dorsal aspect peritreme appears notched). Posterior corner of paranota right or obtusely angled back to segment 5, thence becoming increasingly acute and prolonged into a spiniform

process which on segments 12-15 is incurved. Posterior edge of paranota concave, with a single row of widely-spaced spicules extending in some cases to apex of peritrematic process.

Epiproct spatulate in outline, sides very slightly arcuate but converging distally; caudal edge nearly transverse, with six small lobes, of which the median two carry two pairs of long setae, one pair placed apically and the other on the ventral side somewhat removed from the rear edge. Paraprocts of the usual form, distinctly convex, surface wrinkled-striate, with polished median discal knob. Hypoproct large, tumid, subhemispheric in outline; apically truncate; setiferous tubercles absent, paramedian setae originate from sockets on edge of sclerite.

Podosterna strongly elevated, anterior and posterior faces nearly vertical; each divided by a deep transverse groove into two halves each with a shallower, broader longitudinal median depression, the quadrants thus formed not notably produced as subcoxal lobes or projections; sternal surface smooth and glabrous. Stricture broad and poorly-defined down sides of segments, anterior edge fairly distinct across midventral region. Sides of metazona with an area of enlarged acute tubercles just behind stricture and another near caudal margin, beginning on underside of paranota and extending to supracoxal region where broadened and with tubercles larger and denser. Central area of metazonal sides with only a few small and scattered tubercles. Stigmata prominent, elongate and very slender, anterior stigmata placed entirely in stricture, in front of dorsal coxal condyle but well removed from it, rim only very slightly raised; posterior stigmata about half as long as anterior, placed between dorsal coxal condyles and slanted obliquely forward, edges slightly elevated with dorsal end somewhat expanded and subauriculate. Dorsal condyles relatively large and prominent, projecting laterally.

Legs relatively large and robust, but short, only the three distalmost podomeres extend beyond edges of paranota, length at midbody about 7.8 mm, tarsal claw large, curved, about 0.8 mm in length. Podomeres nearly glabrous except for sparsely scattered microsetae, and with macrosetae dispersed as follows: one on ventral side of coxa, pre-femur, femur, and postfemur, ventral side of tibia with two, and of tarsus with three; tibia with one lateral macroseta on each side, and apical half of tarsus with about 10-12 dorsolaterally placed setae. Relative lengths of podomeres:  $3 > 6 > 2 > 1 = 4 > 5$ .

Anterior sterna as shown in Fig. 1: a large median process between

---

→

FIGS. 1-4. *Exallostethus thrinax*, sp. n. 1, sternal region and bases of legs of segments 4, 5, and 6, showing sternal modifications and reduction of ventral coxal setae (small numbers at right refer to the leg pair). 2, gonopods, ventral (aboral) aspect, as would be seen *in situ*. 3, left gonopod, mesal aspect. 4, distal half of telopodite of right





gonopod, dorsal (oral) aspect, to show relationships of terminal branches, enlarged. Figures 1-3 drawn  $\times 45$ , Figure 4,  $\times 90$ . Abbreviations: PFP, postfemoral process; SLM, solenomerite, TT<sub>1</sub> and TT<sub>2</sub>, apical lobes of the tibiotarsus.

legs of the 3rd pair, its surface closely and coarsely striate and with deep vertical groove on posterior side; segment 5 with massive median projection between 4th legpair and a low median ridge between 5th legs; sternum of segment 6 broad, medially planoconcave with prominently developed subcoxal lobes. Legs: 1st and 2nd pairs relatively setose, 3rd pair with only a field of ventral setae on coxae and several dispersed hairs elsewhere; coxal setae decrease as shown, to only one large seta on 6th pair. Anterior legs unmodified.

Gonopod aperture small, oval, anterior edge reaching to stricture but slightly elevated above it; posterior edge somewhat elevated and thickened. Gonopod large, elongate, projecting forward to sternal process of segment 5. No sclerotized sternal remnant present, but coxae separated by a large median lobe of whitish heavy membrane; sternal apodemes slender, slightly longer than coxae.

Gonopods as shown in Figures 2-4; prefemoral region short and set medially with unusually stout setae, almost spurs, of a form not found elsewhere in the Euryurinae; acropodite much longer than prefemur, composed of a long, attenuated, distally ribbon-like solenomerite (SLM), a large, apically broadened and falcate postfemoral process (PFP) likewise unique in this group; and a medially curved tibiotarsus, apically divided into two similar uncate laminate terminal lobes.

*Paratype:* Adult female, length about 60 mm (specimen broken), body outline similar to that of male, i.e., very narrow anteriorly, becoming broader back to about 14th segment, thence tapering abruptly posteriad. Width of collum, 7.2 mm; segment 2, 8.0 mm; segment 4, 9.0 mm; segment 6, 10.0 mm; segment 10, 10.2 mm; segment 14, 10.5 mm. W/L ratio, 17.5%.

Color pattern similar to that of male, but median spots appreciably larger, occupying up to half of metatergal middorsal region. Structure generally as in male except: anterior edge of collum with marginal ridge indicated for a short distance just behind mandibular condyle; tergal sculpture more pronounced, upper side of paranota distinctly areate; costulation of stricture more distinct; posteriormost segments with low but evident transverse series of small tubercles; paranota appreciably smaller than in male but otherwise similar; legs more slender; sternum of 4th segment with an erect median process, somewhat smaller than that of male; sternum of 5th segment with two approximate paramedian knobs between 4th pair of legs, and two lower, more widely spaced knobs between 5th pair.

*Etymology:* The specific name is the Greek word for a three-parted implement, and relates to the three distal elements of the gonopod telopodite.

#### LITERATURE CITED

- HOFFMAN, RICHARD L. 1954. Further studies on American millipeds of the family Euryuridae (Polydesmida). *Jour. Washington Acad. Sci.* 44:49-58, figs. 1-4.